

In re the Application of:  
PLASTIC TECHNOLOGIES, INC.

International Appln. No. PCT/US2004/001376

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Attorney Docket: 53-36758

**REPLY TO WRITTEN OPINION**

The reasoned statement under Rule 43bis.1(a)(i) of the Written Opinion, dated 07 SEP 2004, raises a question regarding novelty of Claims 1-21 in view of U.S. 5,552,995 A (Sebastian) and U.S. Re. 36,602 A (Sebastain).

Both cited documents describe a computer based engineering design system used to design a part, a tool, and a process to make the part. The system utilizes a processor and a memory. Five modules are provided to facilitate the design, process, and tooling of the part. The five modules include a material selector, an engineering economics estimator, a core design, a tooling generator, and a tool fabrication process planner.

The core design module utilizes a plurality of feature templates stored in the memory of the system to facilitate part, tool and process design concurrently. Each feature template can include part/function information (such as geometric attributes), tool information, and process information. Constraints or rules may be added that the system must adhere to when performing the analysis. The computer system utilizes the material properties, the information stored in the feature templates, the design conditions, the tooling and processing conditions, and other parameters to simultaneously provide a part design, a tool design and a processing design while taking into consideration cost and economics. As a result, a designer may be provided with various choices during the analysis which may affect cost and design. If a parameter (such as a design feature, a joint connection, or a material selection) is changed, a new part design, tool and process are output in response to the changed parameter.

While the both cited documents discuss the many types of processes and products for which this system can be used, including various molding operations, detailed information regarding processing is not provided. For example, the documents make reference to feature templates that have access to structural, thermal, and flow analysis, however, these references are only recited in general without going into any specific detail in regards to the analysis.

Applicant's Claims 1-14 define a method for simulating the heating of a plastic preform including inputting preform and oven geometry, calculating the spatial location of the preform

through the oven, providing heating information, calculating temperatures of primary and secondary heating sources, solving energy equations based upon a number of factors and computing a cross sectional thermal profile of a final heated preform. There is no disclosure in either cited reference of the claimed method steps and no suggestion that such steps could be performed by the design system of the cited references.

Applicant's Claims 15 and 16 are similar to Claim 1 but include steps of providing stress/strain behavior of the material, simulating stretch blow molding of the heated preform and determining a bottle wall thickness profile. There is no disclosure in either cited reference of the claimed method steps and no suggestion that such steps could be performed by the design system of the cited references.

Applicant's Claims 17-21 define an apparatus for simulating the heating of a plastic preform including means for inputting preform geometry into a preform design program, means for generating oven geometry including spatial locations of the preform, means for generating primary and secondary temperature heating sources, and a heating module for solving energy equations based upon a number of inputs and computing a cross sectional thermal profile of a final heated preform. There is no disclosure in either cited reference of the claimed apparatus.

The apparatus and method as claimed in the present invention are not shown nor described in the references cited. Rather, the cited documents utilize general references to feature templates containing information to as part, tool, and process design and functionality. The cited documents do not describe the specifics of the claimed invention.